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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,322	03/30/2005	Dorothee Martin	259732US0PCT	7539

22850 7590 05/14/2009

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EXAMINER	
BREVAL, ELMITO	

ART UNIT	PAPER NUMBER
2889	

NOTIFICATION DATE	DELIVERY MODE
05/14/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/509,322	MARTIN ET AL.	
	Examiner	Art Unit	
	ELMITO BREVAL	2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 February 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,6-18,26 and 27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,6-18,26 and 27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 February 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The amendment filed on 02/25/2009 has been entered.

The previous Non-Final rejection has been withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 9-18, and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmid et al., (US. Pat: 5,675,212) of record by the applicant in view of Martin et al., (US. Pub: 2003/0137230) of record.

Regarding claim 1, Shmid ('212) teaches (abstract; and at least fig. 6) a spacer comprising an insulating core (i.e. a core which does not exhibit electronic conductivity) and a resistive skin (i.e. conductive coating; col. 5, lines 13-16), wherein the spacer is capable of maintaining a space between two substrates formed from glass sheets (best seen in fig. 6; col. 11, lines 15-23), over the entire area of the sheet substrates, in a device.

However, Schmid ('212) fails to expressly disclose a glass coating capable of providing the spacer an electronic conductivity at 50ºC of 10exp-13 to 10 ohm-1.cm-1; and the surface of the spacer is at least partly electronically conducting, and the shape and the constituent material of the spacer provide thermo-mechanical integrity of the substrates in the device, wherein the glass comprised in said coating is a glass having

the following composition, in mol% for a total of 100 mol %:

(A) Si02 25-75

(B) at least one oxide of a

transition element of Groups IB, IIIB, VB, VIB, VIIB and VIII of the Periodic Table

of the Elements that optionally exist in a number of oxidation states as defined in 1-30

(C) A1203 0-40

(D) Zr02 0-10

(E) at least one material selected from the group consisting ofLi20, Na20 and

KzO 0-10

(F) at least one material selected from the group consisting of MgO, CaO, SrO and

BaO 0-40

(H) B203 0-30

(I) P205 0-5

(J) TiO2 0-10

K) ZnO .....O- 10

(M) additives 0-1

(N) impurities .....complement to 1 O0 mol%.

Further regarding claim 1, Martin ('230) in the same field of endeavor teaches a spacer comprised of, in part, a glass coating capable of providing an electronic conductivity at 50ºC of 10exp-13 to 10 ohm-1.cm-1 ([0016]), and the surface of the spacer is at least partly electronically conducting ([0030], and the shape and the constituent material of the spacer provide thermo-mechanical integrity of the substrates

in the device, wherein the glass comprised in said coating is a glass having the following composition ([0021]-[0025]), in mol% for a total of 100 mol %:

(A) Si02 25-75

(B) at least one oxide of a transition element of Groups IB, IIIB, VB, VIB, VIIB and VIII of the Periodic Table of the Elements that optionally exist in a number of oxidation states as defined in 1-30

(C) A1203 0-40

(D) Zr02 0-10

(E) at least one material selected from the group consisting ofLi20, Na20 and KzO 0-10

(F) at least one material selected from the group consisting of MgO, CaO, SrO and BaO 0-40

(H) B203 0-30

(I) P205 0-5

(J) TiO2 0-10

K) ZnO .....O- 10

(M) additives 0-1

(N) impurities .....complement to 1 O0 mol% for the purpose of having a spacer with high thermal-mechanical strength.

Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to contemplate of using the spacer materials of Martin in the

device of Schmid for the purpose of having a device with high thermal-mechanical strength.

Regarding claim 2, Martin ('230) the spacer has an electronic conductivity of 10exp-12 to 10exp-2 ohm-1.cm-1 ([0016]). The reason for combining is the same as for claim 1.

Regarding claim 9, Martin ('230) teaches (in paragraphs [0044]-[0045]) the spacer core (i.e. the glass matrix) is glass. The reason for combining is the same as for claim 1.

Regarding claim 10, Martin ('230) teaches (in paragraph [0045]) the glass matrix (i.e. the spacer core) has an expansion coefficient measured between 20 and 300 C. of between 60 and 95 x 10 exp. -7 K exp.-1 and the case of borosilicate-type glass matrices, the expansion coefficient may be between 30 and 50 x 10 exp. -7K exp. -1. The reason for combining is the same as for claim 1.

Regarding claim 11, Martin ('230) discloses (in paragraph [0044]) the glass matrix (i.e. the glass core) has a temperature corresponding to the strain point of greater than 530ºC. The reason for combining is the same as for claim 1.

Regarding claim 12, Martin ('230) teaches (abstract) the glass spacer has modulus of elasticity of greater than 90 GPA. The reason for combining is the same as for claim 1.

Regarding claim 13, Martin ('230) discloses ([0021]-[0027]) the glass matrix (i.e. the core) comprises the following composition, in mol % for a total of 100 mol %

(A') Si02 25-75

(C') A1203 0-40

(D') ZrO2 0-10

(E') at least one material selected from the group consisting of Li20, Na20 and I20 0-10

(F') at least one material selected from the group consisting of MgO, CaO, SrO and BaO 0-40

(G') at least one oxide of at least one element selected from the group consisting of Y, La and elements of the lanthanide series 0-25

(H') B203 0-30

(I') P205 0-5

(J') TiO2 0-10

(K') ZnO 0-10

(L') nitrogen in combined form 0-20

(M') additives 0-1

(N') impurities .....complement to 100 mol%. The reason for combining is the same as for claim 1.

Regarding claim 14, Martin ('230) discloses (in paragraph [0041]) the space has a prismatic shape. The reason for combining is the same as for claim 1.

Regarding claim 15, Martin ('230) further discloses (in paragraphs [0033]) the spacer has an electrical resistance to the flow of current between 10exp-5 to 10 G ohms. The reason for combining is the same as for claim 1.

Regarding claim 16, Martin ('230) teaches (in paragraph [0042]) the spacer has a density of greater than 3. The reason for combining is the same as for claim 1.

Regarding claim 17, Martin ('230) teaches (in paragraph [0031] a black color spacer can be obtained. The reason for combining is the same as for claim 1.

Regarding claim 18, Martin ('230) discloses (in paragraphs [0040]) the spacer is of pillars. Also, (in paragraph [0017]) Martin teaches applying a voltage between two platinum electrodes. In addition, in paragraph [0015] Martin further teaches the electronic conductivity property of the spacers is satisfactory for permitting the removal of charges (thus, it is considered within Martin's disclosure the pillars comprise metal electrode deposited on the sections of the pillars to facilitate the removal of surface charges from the spacer to the electrodes). The reason for combining is the same as for claim 1.

Regarding claim 26, Martin ('230) discloses (in paragraphs [0001]-[0003]) the device is a display screen, a vacuum glazing and a flat lamp comprising at least two glass sheets (i.e. the two flat substrates). The reason for combining is the same as for claim 1.

Regarding claim 27, Martin ('230) discloses ([0001]-[0003]) a display screen, vacuum glazing and a flat lamp comprising at least two glass sheets (i.e. the two flat substrates) separated by spacers as claimed in claim 1.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmid et al., (US. Pat: 5,675,212) of record by the applicant in view of Martin et al., (US. Pub:

2003/0137230) of record in further view of Yamazaki et al., (US. 2002/0123292) of record by the examiner.

Regarding claim 7, Schmid/Martin teach all the claimed limitations except for, the thickness of the coating layer is from 1-10,000 nm.

Further regarding claim 7, Yamazaki teaches ([0131]) a method of manufacturing a spacer comprised of, in part, a glass form with a coating thickness of 200 nm for the purpose of having a device that can suppress surface charging with a low manufacturing cost.

Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the glass coating thickness of Yamazaki into the device of Schmid/Martin for the purpose of having a device that can suppress surface charging with a low manufacturing cost.

Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmid et al., (US. Pat: 5,675,212) of record by the applicant in view of Martin et al., (US. Pub: 2003/0137230) of record in further view of Jousse et al., (US. Pub: 2002/0187299) of record by the Examiner.

Regarding claim 6, Schmid/Martin teach all the claimed limitations except for expressly disclose the coating consists of one layer.

Further regarding claim 6, Jousse in the same field of endeavor teaches ([0071]) a spacer comprised of, in part, a glass coating wherein the coating consists of one or more thin layer (s) in order to improve the expansion coefficient of the device and to avoid breakdown.

Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the coating structure of Jousse in the device of Schmid/Martin in order to improve the expansion coefficient of the device and to avoid breakdown.

Regarding claim 8, Jousse ('299) teaches (in paragraph [0061]) the lateral surface of the fibre is covered at least partly with a conductive coating and this may be obtained, for instance, by using a gas phase pyrolysis technique, a liquid phase pyrolysis technique or a vacuum deposition technique. The reason for combining is the same as for claim 6.

Response to Arguments

Applicant's arguments with respect to claims 1, 2, 6-18, 26, and 27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELMITO BREVAL whose telephone number is (571)270-3099. The examiner can normally be reached on M-F (8:30 AM-5:00 Pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Toan Ton can be reached on (571)-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 6, 2009
/Elmito Breval/
Examiner, Art Unit 2889

/Joseph L. Williams/
Primary Examiner, Art Unit 2889